TROPICAL RAINFALL MEASURING MISSION

July 16, 2001 - July 22, 2001
DOY 197 - 203
Day of Mission 1327 - 1326

TRMM MISSION OPERATIONS

- TRMM is flying in the -X Forward direction as of July 10th (01-191) at 13:45:38z.
- Yaw maneuver #60 to +X Forward is currently scheduled for July 25th (01-206).
- Delta-V #323 is scheduled for July 25th (01-206), using the LBS thrusters.
- The Beta angle range for 01-204 to 01-210 is -7.4° to +13.66°.
- The 402.5 km Boost Command Authorization Meeting is scheduled for July 25th (01-206).
- The next Monthly Status Review (MSR) is scheduled for July 25th (01-206).
- The next Configuration Control Board (CCB) meeting is scheduled for August 30th (01-242).

TRMM SUBSYSTEM OPERATIONS

Attitude Control System (ACS)

01-200 (Thursday, July 19th)
Delta-V maneuver #322 was successfully conducted at 15:08:46z and 15:54:32z for durations of 36.375 and 27.375 seconds respectively, using the ISP thrusters. The off-modulation of the -Pitch thruster (#6) for burns 1 and 2 was 38.8% and 37.4% (61.2% and 62.6% on time). The remaining fuel is 395.435 kg, the current GN2 pressure is 607.01 psia, and the final apogee and perigee height is 354.72 km x 347.61 km.

Flight Data System (FDS)/Command & Data Handling (C&DH)

The UTCF was remains at 31535996.821042 seconds and the current drift value is -625.0 µs. The Frequency Standard remains at x'7C6' with a current drift rate of -3.85 µs/hr.

Reaction Control Subsystem (RCS)

The RCS subsystem performed nominally during this period. See the ACS section for specific Delta-V information.

Power Subsystem

The Power subsystem performed nominally during this period.

Electrical Subsystem

The Electrical subsystem performed nominally during this period.

Thermal Subsystem

The Thermal subsystem performed nominally during this period.

Deployables Subsystem

The Deployables subsystem performed nominally during this period.

RF/Communications Subsystem

The RF/Communications subsystem performed nominally during this period.

SPACECRAFT INSTRUMENTS

CERES

CERES was powered off on 01-149 (Tuesday, May 29th, 2001).

LIS

The LIS instrument performed nominally during this period.

PR

The PR instrument performed nominally during this period.

The list of External Calibrations times is shown below:

Beam Number	Start Time	Stop Time
57	01-197-03:20:28z	01-197-03:25:29z
69	01-198-03:44:27z	01-198-03:49:28z
67	01-199-02:31:51z	01-199-02:26:52z
61	01-200-02:55:56z	01-200--3:00:57z

The list of Internal Calibration times over Australia in which PR was not radiating is shown below:

01-197-19:34:39 - 19:36:50z
01-198-11:52:30 - 11:57:36z
01-198-19:57:44 - 19:59:32z
01-199-18:45:50 - 18:47:59z
01-200-11:03:41 - 11:08:10z
01-200-17:34:08 - 17:36:22z
01-201-17:56:57 - 17:59:06z
01-202-10:15:26 - 10:16:55z
01-202-16:45:34 - 16:47:47z
01-203-09:06:02 - 09:08:10z
01-203-17:08:10 - 17:10:34z

TMI

The TMI instrument performed nominally during this period.

VIRS

The VIRS instrument performed nominally during this period.

GROUND SYSTEM

Release 9.0 was made operational on String 1 on July 11th (01-192) and is now on all strings.

Event Reports

No event reports were generated during this period.

Generic Late Acquisition Reports (for TTRs 19639)

No generic late acquisitions occurred during this period.

New Anomalies

No new anomalies occurred during this period.

Recurring/Open Anomalies

No open anomalies recurred during this period.

Prepared by:
Mark Fioravanti
TRMM Systems Engineer

Approved by:
Lou Kurzmiller
FOT Manager

NOTE: The 402.5 Km Boost High-Level Timeline of Events is included here for reference. As of July 20, 2001, all activities remain on-schedule for a first burn target date of August 1, 2001.

TRMM 402.5 KM BOOST HIGH-LEVEL TIMELINE OF EVENTS
(Current as of July 20, 2001)

- All times are in GMT (EST + 4), and all times and burn durations are subject to change.
- Solar Beta Angle Range for 8/1 - 8/6 (01/213 - 01/218): +26.3° - +47.6°
- Special reports such as ESA interference times, eclipse times, and TDRS event times will be provided each morning during 8/1 - 8/6 at MOC and SOTA-7 for reference.
- Trending Request forms will be available at MOC and SOTA-7 from 8/1 - 8/10.

WEEK4 (July 23-27)

Monday July 23, 2001 (01/204)
PR LNA Analysis

Tuesday July 24, 2001 (01/205)
FSW Test Results Review
PACOR-A becomes Prime with PACOR-II operational in parallel
Meeting with GN&C Contingency Mode personnel

Wednesday July 25, 2001 (01/206)
Yaw Maneuver #60 to +X Forward
Delta-V #323
TSM Table 21 to EEPROM
ACS System Tables 54 and 81 to RAM; Monitor and Trend for remainder of the week
Magnetic Field Patch to EEPROM (optional)
Command Authorization Meeting (CAM) to be conducted in Bldg 32

Saturday July 28, 2001 (01/209)
Routine VIRS Solar Calibrations via Daily ATS Load

Simulations and MOC to STTF Load Test activities continue all week
MP tweaking of Scheduled Events continue

WEEK5 (July 30-Aug 4)

Monday July 30, 2001 (01/211)
Final Boost to 402.5 km Go/No-Go decision by MD (HQ approval is required)
MPF products delivered to FDF for Burn Pair #1
PR Log Amp Check command request
MAP Lunar Swing-by

Tuesday July 31, 2001 (01/212)
Extended Duration Boost versions of ACS System Tables 73 and 85 uplinked to RAM
Delta-V Burn Pair Load #1 and Backup Load #1 (Load #1 +2 min) generated by MP
All remaining Pre-Burn trending and analysis requests are completed

Wednesday Aug 01, 2001 (01/213)
Delta-V Load #1 uplinked during early morning
Burn #1 Go/No-Go decision by MD following Stand-up meeting and trending review

Burn #1 (DV #324) Performed at 15:50:57z and 16:36:40z (172.375 and 172.125 seconds)

Post-maneuver MCF product sent to FDF
Burn #2 Planning File and Post-Maneuver Report #1 delivered by FDF
Delta-V Burn Pair Load #2 and Backup Load #2 (Load #2 +2 min) generated by MP
PR Offset of Range Bin commanding when altitude is approximately 360 km

Thursday Aug 02, 2001 (01/214)
Burn #2 Go/No-Go decision by MD following Stand-up meeting and trending review

Burn #2 (DV #325) Performed at 16:15:33z and 17:01:22z (171.875 and 171.625 seconds)
New TDRS EPVs generated and uplinked

Post-maneuver MCF product sent to FDF
Burn #3 Planning File and Post-Maneuver Report #2 delivered by FDF
Delta-V Burn Pair Load #3 and Backup Load #3 (Load #3 +2 min) generated by MP

Friday Aug 03, 2001 (01/215)
Burn #3 Go/No-Go decision by MD following Stand-up meeting and trending review

Burn #3 (DV #326) Performed at 15:11:56z and 15:57:52z (171.375 and 171.375 seconds)

Post-maneuver MCF product sent to FDF
Burn #4 Planning File and Post-Maneuver Report #3 delivered by FDF
Delta-V Burn Pair Load #4 and Backup Load #4 (Load #4 +2 min) generated by MP

Saturday Aug 04, 2001 (01/216)
Burn #4 Go/No-Go decision by MD following Stand-up meeting and trending review

Burn #4 (DV #327) Performed at 15:43:40z and 16:29:43z (170.875 and 170.875 seconds)

Post-maneuver MCF product sent to FDF
Burn #5 Planning File and Post-Maneuver Report #4 delivered by FDF
Delta-V Burn Pair Load #5 and Backup Load #5 (Load #5 +2 min) generated by MP

WEEK6 (Aug 5-Aug 10)

Sunday Aug 05, 2001 (01/217)
Burn #5 Go/No-Go decision by MD following Stand-up meeting and trending review

Burn #5 (DV #328) Performed at 14:47:09z and 15:33:18z (126.250 and 126.125 seconds)

Post-maneuver MCF product sent to FDF
Burn #6 Planning File and Post-Maneuver Report #5 delivered by FDF
Delta-V Burn Pair Load #6 and Backup Load #6 (Load #6 +2 min) generated by MP

Monday Aug 06, 2001 (01/218)
Burn #6 Go/No-Go decision by MD following Stand-up meeting and trending review

Burn #6 (DV #329) Performed at 16:35:21z and 16:59:55z (16.750 and 16.875 seconds)

MAP Mid-Flight Correction Maneuver (Possible)
Post-maneuver MCF product sent to FDF

Post-Maneuver Report #6 delivered by FDF

Tuesday Aug 07, 2001 (01/219)
Copy original version of ACS System Tables 73 and 85 from EEPROM to RAM
Normal Daily EPV uplinked to spacecraft

Thursday Aug 09, 2001 (01/221)
PR LNA Analysis Command Request
Shuttle Launches to ISS

Uplink remaining ACS System Tables as outlined in ORR on August 7 - August 9

VIRS Solar Calibrations via Daily ATS Load, the date of the calibration will be determined by VIRS scientists once the new ephemeris files have been delivered.

Trending and Health & Safety monitoring will continue; new baselines will be established.
Additional sensor calibrations will be performed as needed pending FDF analysis.